

REMARKS

5 Claims 1, 2, 9, 10 and 13 are amended for overcoming the claim objection. In view of the foregoing amendments and the following remarks, reconsideration of the present patent application is respectfully requested.

Rejection Under 35 U.S.C. §102

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The Examiner rejected Claims 1-14 under 35 U.S.C. 102(e) as being anticipated by Brinkman et al. (U.S. Patent 6,167,169).

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The Applicant respectfully submits that the above patent does not render the present invention obvious. The present invention has disclosed an optical element and a method for performing nonlinear frequency conversion and amplitude modulation simultaneously. The device in Fig. 56 of US Patent 6,167,169 (hereinafter "the '169 patent") is an electro-optic Bragg reflector that induces wavelength-selective light reflection from an electrode-coated periodically poled nonlinear material. However, the device in the present invention **does not** reflect light, but employs the electro-optic effect to control the interference phase of mixing waves for amplitude modulation. No output signal modulation, but only light reflection, is mentioned in Fig. 56 of the '169 patent. In addition, Fig. 56 of the '169 patent permits the integration of QPM wavelength converters prior to or after "the electro-optic reflection grating structure" for the purpose of resonantly enhanced wavelength conversion but **not** amplitude modulation. However, the present invention does not have any "electro-optic reflection grating structure" for any reflection purpose. Again, the electro-coated dispersion section of the present invention does not have a grating structure under the electrode and does not reflect light. The only purpose of the electro-coated section in the present invention is to **alter the interference phase of mixing waves**.

To further classify the device in Fig. 56 of the '169 patent as a reflecting element, we highlight the following the statements made in US Patent 6,167,169:

1. Line 16, Column 11: "Fig. 56 is an embodiment of a laser feedback device using a periodically poled waveguide reflector."

2. Line 52, Column 86: "A waveguide may be incorporated into the poled material to confine the light beam for a long distance. This is particularly useful in devices which require the interaction length to generate a significant reflection..."

3. Line 13, Column 87: "The index pattern (under the electrode) may act as a reflector"

4. Line 21, Column 87: "The quasi phase matched doubler may be incorporated as a part of the feedback grating structure, prior to it, or after it."

The present invention does not use a feedback grating structure, does not reflect light, and does not have a reflector. The present invention performs simultaneous amplitude modulation and wavelength conversion through electro-coated dispersion control on wavelength-converted interfering waves, which is fundamentally different from and never described in the '169 patent.

CONCLUSION

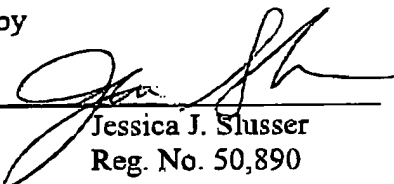
Based on the above comparisons, it is clear that the present invention is very distinguishable from the '169 patent. Thus, one skilled in the art would not be taught or suggested through the '169 patent's disclosure to conceive the present invention. Accordingly, claims 1, 9, 10 and 13 are patentable over the above-cited patent.

For the foregoing reasons, the cited reference fails to anticipate the present invention and the present invention is patentable and reconsideration and allowance of the present patent application are earnestly solicited at an early date.

Respectfully Submitted,

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